

Abstract

Intercalation cathode materials especially suited for use in high-voltage, high-energy lithium rechargeable batteries, having the formulae $\text{Li}[\text{Li}_{(1-2x)/3}\text{M}_y\text{Mn}_{(2-x)/3}\text{Ni}_{(x-y)}]\text{O}_2$, where $0 < x < 0.5$, $0 < y \leq 0.25$, $x > y$, and M is one or more divalent cations from Ca, Cu, Mg, and Zn. A process for making such materials is also provided.